Stanislav Fedyk

306 550 4206 | sfedyk@ualberta.ca | LinkedIn | GitHub | Edmonton, Canada

Education

University Of Alberta — Alberta, Canada
B.Sc. Honors in Computing Science — *Sep 2020 – May 2025 (Expected)*

Experience

TikTok — Vancouver, British Columbia
Software Engineer Intern | Ads and Monetization — *May 2024 – August 2024*

- Researched, designed and implemented an upgrade to **AI/ML** audio processing pipeline written in **Go** with **Google Cloud Translation & Speech-to-text APIs** using **gPRC and protocol buffers**, ensuring content safety and supporting expansion into 13 new markets.
- Independently uncovered irregularities in existing audio processing pipeline. Discovery led to a project proposal, experiment plan, and adoption of new audio classification strategy, requiring collaboration with international engineering teams and stakeholders. New strategy classifies audio of **every ad ingested by Tiktok.**
- Applied **data driven development** principles, supporting feature launches and engineering decisions with **key performance indicators**
- Engineered configuration manager for a **massively distributed, micro-serviced, machine learning application**, simplifying first-time project setup for new team members and ensuring safety of production data.

True North Mortgage — Calgary, Alberta
Software Developer Intern — *May 2022 – August 2023*

- Developed a **full stack** document editing and templating web application and **RESTful API** to improve the workflow of underwriting professionals, removing the need for manual data entry and decreasing document generation time by 1000% using **React, PHP, NodeJS and PostgreSQL**.
- Contributed to the development of in-house mortgage tracking software and integration with vendor APIs, resulting in a significant reduction of reliance on outdated big-bank solutions. This modernization effort lead to savings of more than 3 million dollars a year from a decrease in licensing and servicing fees.
- Leveraged the **Google Ads API** to implement offline conversion tracking, leading to a 22% increase in Google interest metrics and an all-time search record.
- Led effort to enhance project maintainability by configuring testing frameworks and **real-time error tracking tools**, leading to a 50% increase in bug resolution speed and an overall increase in project stability.
- Utilized **Docker** and **GitHub Actions** to decrease portability related build issues and manage project deployments.

Projects

Compiler | C++ | *GitHub*

- Built a compiler in a team of four for a subset of a general purpose programming language. Supported features included various binary operations, function calls, custom data types, a standard library and automatic memory management. Main contributions include grammar definitions and code generation.
- Designed the grammar responsible for parsing programs, generating **abstract syntax trees** using **ANTLR**.
- Implemented compiler backend using the **MLIR** framework, using the **LLVM dialect** to generate **IR**

Multithreaded Sort | C/C++ | *GitHub*

- An implementation of the Parallel Sort By Regular sampling algorithm, using **pthreads for parallelism**. Focused on algorithm performance by being mindful of memory allocations and taking advantage of the typing system for maximum compiler optimizations.
- Achieved performance in-line with theoretical maximum, observing a 47 times speed-up on 128 cores when compared to C-standard quicksort on a 4 billion item array.

Chip-8 Emulator | C++ | *GitHub*

- A C++ project which implements the Chip-8 virtual machine, allowing for execution of original Chip 8 game ROMs such as BrickBreaker.
- Utilized design patterns such as Factory and Adapter. Enhancing code modularity and readability.

HTTP Webserver | Rust | *GitHub*

- An implementation of a bare-bones HTTP web server, allowing for querying of serverside resources.
- Utilized **TCP sockets** to accept, process and respond to incoming queries.